04/00

SELECT GC60

GAS FIRED RANGE COOKER & BOILER

INSTALLATION & COMMISSIONING INSTRUCTIONS

(To be left with customer)

THE AUTHENTIC ORIGINAL SINCE 1854

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IMPORTANT

This cooker must be installed in accordance with regulations in force and only used in a well ventilated space. Read these instructions before installing or using.

GAS CATEGORIES

Natural Gas Models - 2nd Family —- 1 2H

Propane Gas Models - 3rd Family —- I 3P

NATURAL GAS

inlet pressure - 20mbar

boiler heat input - 21.98 kW setting pressure - 15.5mbar

boiler heat output -17.6 kW

oven heat input - 7 kW setting pressure - 10.5mbar

PROPANE GAS

inlet pressure - 37mbar

boiler heat input - 18.17 kW 1300 gram/hour setting pressure - 35.9mbar

boiler heat output - 14.65 kW

oven heat input - 7kW 500 gram/hour setting pressure - 32mbar

COUNTRY OF DESTINATION

GB AND IE

Installation regulations

The compliance with a British standard does not, of itself, confer immunity from obligations. In particular the installation of this appliance must be in accordance with the relevant requirements of the Gas Safety (Installation and use) Regulations 1984 (as amended), current IEE Wiring Regulations, Local Building Regulations, Building Standards (Scotland) (Consolidation), bye-laws of local Water Company and Health and Safety Document No.635 (Electricity at work regulations 1989) It should be in accordance with the relevant recommendations of the following British Standards:

BS 6798:1987 Specification for installation of gas fire hot water boilers of rated input not exceeding 60KW.

BS 5449:1990 Central Heating for Domestic Premises.

BS 6891:1988 Installation of low pressure gas pipework installations up to 28mm (R1)

GENERAL

The installation of the cooker, the chimney, hearth and walls adjacent to the cooker must be in conformity with local or national regulations currently in force. In the United Kingdom, the appropriate sections of the Building Regulations must be conformed to.

The cooker weighs 300kg approx. The hearth must be solid, level, of incombustible material and constructed in accordance with any Building Regulations which apply to the particular site.

The cooker is supplied fitted for either Natural or L.P. Gas, and the fuel type is marked on a data badge fixed to the inside of the burner chamber door.

Check the data plate specification corresponds to the available gas supply before starting installation.

VENTILATION

The cooker requires the room or internal space containing it, to have an air vent of minimum effective area of 99 square cm. This air vent should be either direct to outside air, or to an adjacent room or internal space that itself has an air vent direct to outside air.

Reference BS5440 Part 2 (1989).

It should be noted that the cooker will generate a certain amount of convected heat and ventilation arrangements should allow for this.

Where an extractor fan is provided to vent the room of cooking smells, steam, etc., arrangements must be made to avoid the possibility of reversing the flow in the chimney. Arrangements for ventilation must always comply with any local by-laws or Code of Practice relevant to the installation.

GAS SERVICE

Check that the gas meter and service pipe are both of adequate size to meet the requirements of the cooker and any other appliances that may be fitted on the system.

FLUE SYSTEM

Refer to Figs. 1, 2 and 3.

An efficient flue system must be provided for the removal of the products of combustion and reference should be made to current Codes of Practice (BS5440 Parts 1 and 2).

Run the flue in the most direct and vertical route practicable. Avoid horizontal or shallow runs but where a horizontal section is necessary, offset this by using twice its length of vertical flue.

To avoid condensation, all flues must be protected against undue cooling.

Use internal flues where ever possible. Terminate the flue to avoid down draught or wind eddies.

Note:The flue socket on the boiler is designed for 125mm pipe and this should not be decreased at any point on the flue run. The advice of a competent installer should be sought in cases of difficulty.

SPACE REQUIREMENTS

Refer to Fig. 1.

Provision is made in the left hand side panel for service connections.

Note: There must be a clear space on the left hand side of the cooker for access during maintenance. This space must not be less than 150mm but 225mm is preferred wherever possible. A working surface at hob level can be run up to the hob and an in fill panel fitted at the front. This panel must be ventilated and removable. Where the adjacent side and rear walls are of combustible material, current regulations for the installation of heating and cooking appliances must be complied with.

BUILDING IN THE COOKER

The cooker is supplied assembled and ready for connection to gas and water.

ELECTRICITY SUPPLY

The appliance requires a mains electricity supply of 230 volts AC 50Hz to power the boiler valve control. This supply must be earthed and provided with a 5 amp fuse. Maximum power consumption is 5 Watts.

PROCEDURE FOR ASSEMBLY

Unpack the cooker completely and check all loose parts against the check list provided. Inspect the cooker for any transit or other damage. For ease of movement, the three doors and hotplate can be removed and stored carefully to avoid damage. The hotplate tool provided can be screwed into the tapped hole in the hotplate to act as a handle when removing the hotplate. Care must be taken when removing the hotplate to avoid damaging the enamelled surface.

Move the cooker into its final position and make the gas and water connections as necessary.
Place the fluebox on the hob, and make the flue connection.

IMPORTANT : The flue pipe must rise 500mm vertically before any 90 degree bend is fitted. This can be reduced to 300mm if a more obtuse bend is used.

Fit the towel rail as follows: Attach one towel rail bracket to the hob using one screw, leaving the bracket just slack; the graphite gasket goes between the bracket and the hob. Repeat for the right-hand bracket.

Slip the towel rail over the bracket projections and tighten the fixing screws from the back of the hob using a 12mm spanner.

Replace the three doors, the shelves and the roasting tin.

IMPORTANT: Remove the protective plastic material from the underside of the hotplate covers.

Check that the hotplate is correctly in position and level. If the hotplate rocks, bed it into the soft seal with a wooden mallet. Check that the hotplate covers lift easily and stay in the upright position when raised.

GAS CONTROL SYSTEM

Gas enters at the left hand side of the cooker via an Rc l/2 connection. A square head service cock is provided. It is ‘ON” when the inscribed line is in line with the gas flow. Appliances are dispatched from the factory with the cock in the ‘ON’ position.

GAS PRESSURE

No pressure control is provided on the cooker and the supply must be set to give an inlet pressure of:-

Natural gas - 20mbar

Propane gas - 37mbar

A pressure test point is provided on the boiler control valve inlet.

BURNER INJECTORS

Natural gas		Propane gas	
Oven 640 multihole	TYPE: BRAY 82	Oven 200 multihole	TYPE: BRAY 82
Boiler 1500multihole	TYPE: BRAY 82	Boiler 560 multihole	TYPE: BRAY 82

HOT WATER SYSTEM

See Fig.15.

The maximum hot water output with the boiler full on and oven burner set for maximum temperature is 19 kW for natural gas and 16kW for propane gas.

The boiler is controlled by an electrically operated gas control valve and thermostat, so an external control programmer may be fitted to control the electricity supply to the appliance - see wiring diagram. Fig. 13.

The oven is controlled by an independent non electrical control and cannot be programmed. This is so that the oven is available to the user at times when the electricity supply is disconnected for any reason.

Up to lkW per hour of hot water is produced by the oven burner when the oven is operating at 200 degrees Celsius due to conduction through the boiler wall. To take advantage of this use a gravity primary circuit.

The appliance is not suitable for use with a pressurised system.

NOTES:

1. An indirect system is essential in all cases. Cylinder capacity should not be less than 30 gallons.
2. The tappings are Rc1. Connection may be made through the left hand side panel. The flow tapping must be 28mm pipe and any reduction made on a rising section of the piping.
3. Water circuit layout must follow established heating practice. The cooker must be level when fitted and the flow pipe must rise from the boiler. A drain cock must be fitted at the lowest point of the circuit and a permanent vent to atmosphere provided at the highest point.
4. The cylinder and pipework must be insulated to avoid heat losses.
5. The static head must not exceed 2 Bar.
6. The maximum water temperature is 90 degrees Celsius.

BYPASS

A bypass should be fitted. Where the water system can allow the boiler and pump to operate on bypass only, the bypass must be placed at least 1.5m away from the boiler.

INHIBITOR

Attention is drawn to the current issue of BS5449 and BS7593 on the use of inhibitors in central heating systems.

If an inhibitor is to be used, contact an inhibitor manufacturer for their recommendations as to the best product to use.

INITIAL CHECKS

With the cooker installed and connected to gas and water proceed as follows:-

1. Connect a pressure gauge to the test point on the boiler control inlet - see Fig. 4.
2. Purge the pipework of air. This may be done via the pressure test point or by holding the gas control lighting button down until gas flows from the pilot.
3. Light the pilots. Leave main burners OFF. Check the pilot flame length through the inspection glasses. Flames have been preset at 20mm long approx.
4. Refer to the Operating Instructions, light both burners and check that the inlet pressure is 20 Mb. If not adjust the pressure of the incoming mains supply to the cooker as necessary.
5. Lift the hotplate covers to the upright position, allow the cooker to heat up for 20 minutes with controls set at maximum.

Because of the cold mass of metal, there will be some initial steaming and/or condensation but this will disappear as the cooker heats up. The hotplate covers are raised to prevent initial condensation affecting the soft seal fixative and causing staining.

LIGHTING THE OVEN BURNER

TO LIGHT THE PILOT

Open the left hand cooker door fully.

1. Turn control knob to PILOT IGNITION POSITION - See Fig. 11.
2. Press knob fully downwards and hold it in.
3. Press ignitor button fully downwards and release to obtain a spark (holding this button down serves no purpose). Repeat until the pilot lights and flame can be seen through the sight glass. See Fig. 16
4. Continue to hold the knob in for about 10 seconds (a slow count of one to ten) after the pilot ignites. Release knob.

If the pilot goes out - repeat 2, 3 and 4.

TO LIGHT THE OVEN BURNER

5. With pilot alight, turn control knob to FULL FLAME POSITION - See Fig. 11, and allow the cooker to heat up for about 45 minutes.
6. Turn the control knob to the position required to maintain the oven temperature.

IMPORTANT: Should the burner and pilot go out at any time, or be turned off by accident, wait at least TWO MINUTES before attempting to relight the pilot flame.

This period of time will ensure that the safety device within the gas control has cooled and closed, preventing gas flowing to the burner.

NOTE: When lighting the burner for the first time or when the cooker is completely cold, there will be some steam or condensation due to the mass of cold metal. During this warm up period the hotplate covers should be raised to prevent condensation entering the covers.

TO TURN THE BURNER OFF

Turn the control knob to the PILOT IGNITION POSITION to leave the burner OFF and the pilot alight. Turn the control knob to the OFF POSITION for complete shutdown. - see Fig. 11.

THE BOILER BURNER

The boiler control is located behind the access cover panel. See Fig. 16. The knob has three positions. See Fig. 12.

TO LIGHT THE PILOT

Press the control knob down and turn to the Pilot position. Press the knob fully down and keep it held down. Press the ignitor knob fully down and release to create a spark. When the pilot lights, continue to hold down the control knob for a few seconds. Release the control knob and the pilot should stay alight, if it goes out repeat the above process.

TO LIGHT THE BOILER BURNER

Check that the mains electricity is switched ON and that any programmer is set to an ON position. Turn the boiler thermostat to position six. See Fig. 17. Turn the control knob to Full Flame and the burner will light. Check that the burner is lit through the viewing window and replace the access cover panel. See Fig. 16. Adjust the boiler control thermostat to the required position and close the cooker left hand door.

THE BOILER THERMOSTAT

The boiler thermostat control knob is on the control panel behind the left hand cooker door. See Fig. 16 and 17.

There are seven marked setting positions:-

0 OFF

1

2

3 Settings 3 to 6 give water temperatures ranging from 45°C to 90°C. Settings between any two numbers may be used. The desired setting will be found by experience. Initially set the thermostat to number 4 and adjust accordingly.

4

5

6

NOTE:
Normally only settings 3 to 6 are used. Settings 1 and 2 may cause condensation on the boiler due to the very short firing periods of the burner. Setting the thermostat to the 0 position should not be used as a means for turning the burner OFF.

LIMIT THERMOSTAT

If there is a failure in the system which causes water in the boiler to reach 100ºC then the limit thermostat will switch OFF the pilot flame causing the burner to go out. The burner can not be relit until the limit thermostat is reset by hand and the pilot relit.

To reset the limit thermostat, turn the oven and boiler controls to OFF, and unscrew the plastic cap from the limit thermostat. See Fig. 16. Depress the small rod inside the thermostat spindle. The burner can then be relit. If the thermostat continues to trip out, contact your supplier.

MAINTENANCE AND SERVICING INSTRUCTIONS

1. EUROSIT CONTROL (OVEN CONTROL) SEE FIG. 5 AND 6.

This is a single knob multi functional control incorporating thermoelectric flame failure protection together with a thermostatic section using a phial type sensor. The thermostat will modulate the gas rate over a specific range and then down to the snap off position.

The inlet and outlet connections are R3/8 Female. Double inlets and outlet connections are available and the unused connections are plugged. These plugs must not be disturbed. The unit contains a restart interlock to avoid re-ignition ie. When it is turned off the control must be allowed to stand in the off position for several minutes before the burner can be relit. The pilot may light but will go out as soon as the knob is released.

The outlet plug is fixed in the factory to set the gas input. This plug must not be interfered with since unscrewing it will affect the gas input. The plug is sealed with paint before despatch.

The minimum rate screw also has a fixed factory setting and must not be interfered with.

PILOT RATE ADJUSTMENT

Pre-set, no adjustment required.

MINIMUM RATE ADJUSTMENT

Pre-set, no adjustment required.

2. NOVA (BOILER) CONTROL

This is a multi-functional control with a thermoelectric flame supervision device with a single control knob (OFF- PILOT - ON).
It is fitted with a restart interlock, servo controlled pressure regulator and an ON/OFF mains electrical solonoid. Inlet and outlet pressure test points are adjacent to the control knob. - see Fig.4.

GAS RATE ADJUSTMENT

Pre-set, no adjustment required.

PILOT RATE ADJUSTMENT

Pre-set, no adjustment required.

3. TO REMOVE OUTER PARTS

(a). Left hand cooker door - Lift off

(b). Boiler valve control access panel - Lift off.

(c). LH Outer access panel - Remove six self tapping screws (2 at the bottom, 2 in the middle and 2 at the top)

(d). LH Outer panel - Remove three screws from the rear of the panel and slacken the three screws going into the base plate. The panel will now lift out.

4. TO REMOVE BURNERS, CONTROLS AND PIPEWORK

ENSURE THE MAINS ELECTRICITY SUPPLY TO THE COOKER IS OFF.

Turn the boiler control to OFF.

As 3(a) and (b)

(a) To remove the boiler burner - See Fig. 9.

(1) Undo the connections on the supply pipe from the boiler valve control to the burner, remove the pipe.

(2) Pull off the electrical connector from the boiler valve control.

(3) Undo the pilot connection at the boiler valve control.

(4) Undo the thermocouple connection at the boiler valve control.

(5) Remove the ignitor lead from the rear of the piezo ignitor.

(6) Remove the cast iron strip at the base of the door frame by undoing two screws.

(7) Undo the two wingnuts on the front of the boiler burner assembly and then remove the boiler burner assembly.

(b) To remove boiler pilot assembly - See Fig. 7.

(1) Remove 2 screws from the side of the burner air box.

(2) Remove the pilot assembly. (2 screws into bracket)

(3) Pull off the ignitor lead.

(c) To remove the Boiler valve control - See Fig. 9.

Proceed as 4 (a), 1 to 5 then:

(1) Turn off the gas supply at the cooker service tap.

(2) Undo the connector on the supply pipe to the oven at the 'Tee' next to the service tap.

(3) Undo the union nut on the service tap outlet.

(4) Undo the two screws attaching the bracket to the underside of the boiler valve control.

(5) Remove the boiler valve control and fittings.

(d) To remove the oven burner and the pilot assembly - See Fig 8 and 10.
Proceed as 3 (a) and (b).

(1) Remove the front closure plate of the oven burner chamber (2 screws).

(2) Undo connections on either end of the supply pipe from the oven control to the burner. Remove the pipe

(3) Undo the thermocouple connection at the oven control.

(4) Undo the pilot connection at the oven control end.

(5) Pull off the ignitor lead at the pilot end.

(6) Remove the wingnuts from the underside of the oven burner and lower the pilot assembly away from the burner. Remove the pilot assembly via the front opening.

(7) Lift up both hotplate covers, remove the hotplate with the screwed tool provided - see Operating instructions. CAUTION the hotplate is heavy and care must be taken to avoid damage to the top plate enamel.

(8) Remove 2 screws from the oven burner baffle, lift out the baffle. - see Fig.14.

(9) Remove the oven burner via the top of the cooker.

(f) To remove the Oven control and Oven Thermostat (Eurosit) - See Fig. 10.

Ensure the gas is turned OFF at the cooker service tap.

(1) Undo connections on the inlet and outlet supply pipes to the control at the control end.

(2) Undo the pilot and thermocouple connections at the control.

(3) Open the top oven door, remove thermostat phial retaining clip - 1 screw.

(4) Remove 2 screws fixing the oven control to the control panel. Remove the control pulling the capillary through the oven wall.

NOTE: The thermostat phial and capillary pass between the cooker front and the combustion chamber and this can lead to difficulty when replacing. To avoid this, Sellotape a length of thin string or wire to the end of the phial before removing it from the oven. Feeding the string through as the capillary is withdrawn. This will provide a guideline when the new control is fitted.

5. TO REMOVE ELECTRICAL CONTROLS

Proceed as section 4(c) to remove the boiler valve control, and section 4(f) to remove the oven control then:

(1) Remove the boiler control valve bracket by undoing the two nuts holding it in position.

(2) Gently push the control panel downwards until it becomes free, and remove it via the door opening. Access can now be gained to the boiler thermostat, limit thermostat and the oven piezo ignitor.

SERVICING

The cooker should be serviced once each year by an authorised person. The following parts should be removed and cleaned as detailed below.

Hotplate - Lift out the hotplate using the screwed tool supplied to the user. Brush the underside with a wire brush.

Burners - Check the top surface for any dust or debris. Brush down as necessary.

Cooker Interior and Boiler Interior (Burner Chambers) - Sweep out any debris from the burner chamber, use a vacuum cleaner nozzle if necessary.
Check that the burner aeration is satisfactory with clearly defined blue cones. Any fluff or lint around the burner can be removed by taking the burner out as described in the maintenance section.

At no time during servicing should the gas rate screw and the low flame screw be disturbed.

Cleaning the Boiler Heat Exchanger

See Fig. 14.

Access to the boiler can be gained by firstly removing the hotplate and then by removing the boiler access plate by undoing the four screws. This will allow the boiler pipes to be cleaned with an appropriate brush.

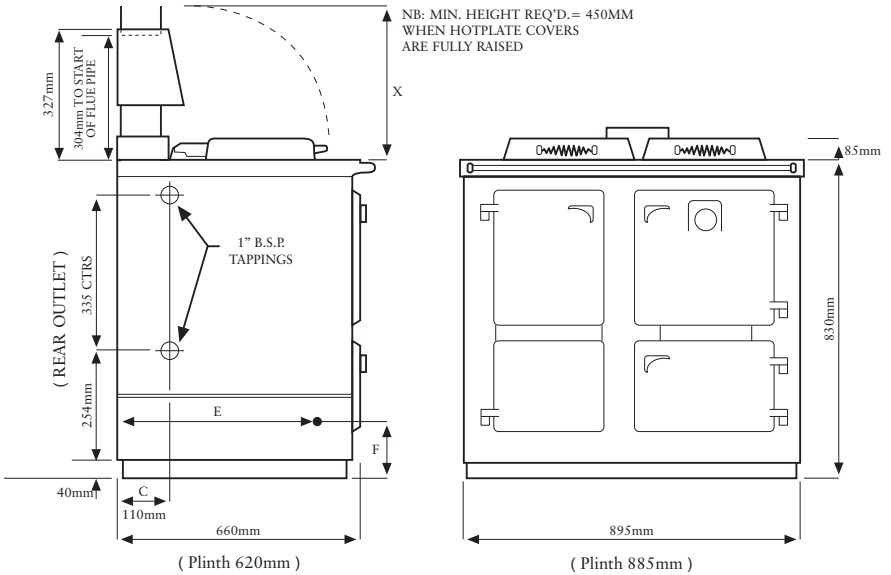
The bottom boiler pipes may be more easily accessed by removing the boiler burner, as described in the maintenance section, allowing the boiler to be cleaned from underneath.

IMPORTANT: After carrying out any maintenance or service task replace all parts in reverse order to removal check for gas soundness and for correct operation of the cooker.

TECHNICAL DIAGRAMS

COOKER DIMENSIONS

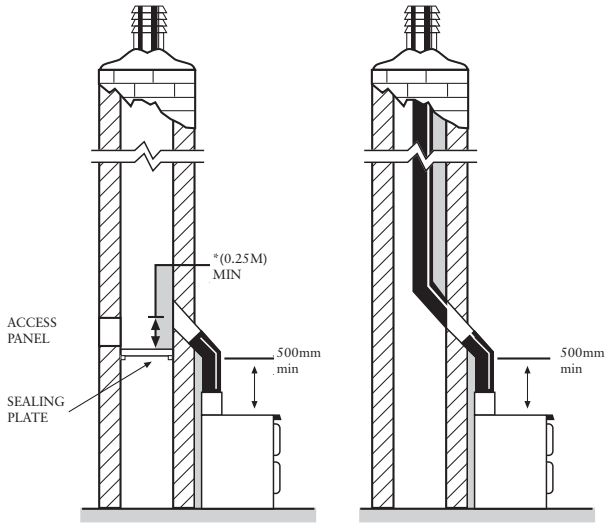
Fig 1.



The company policy is one of continual development. Sizes are approximate and variation may occur during manufacture.

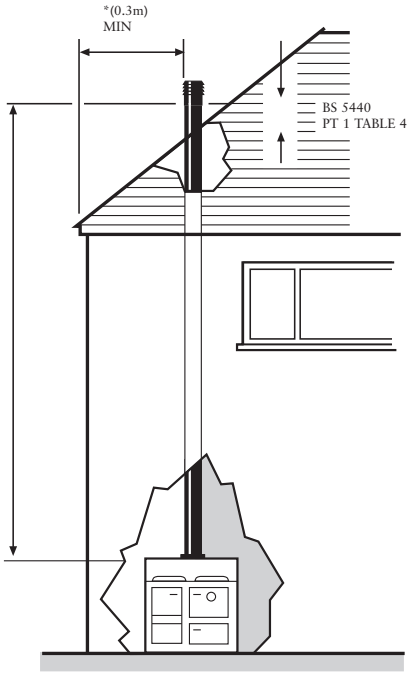
CONNECTION TO BRICK CHIMNEYS

Fig 2.



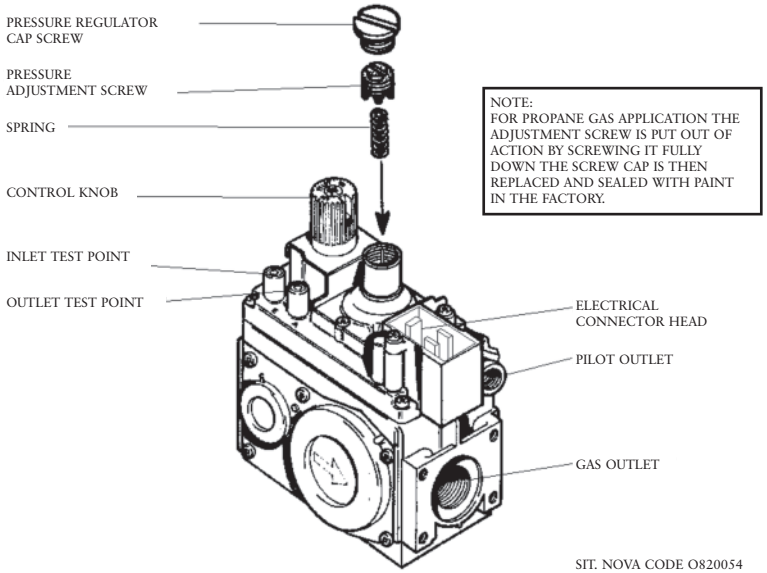
TERMINATION OF FLUE ON PITCHED ROOF

Fig 3.



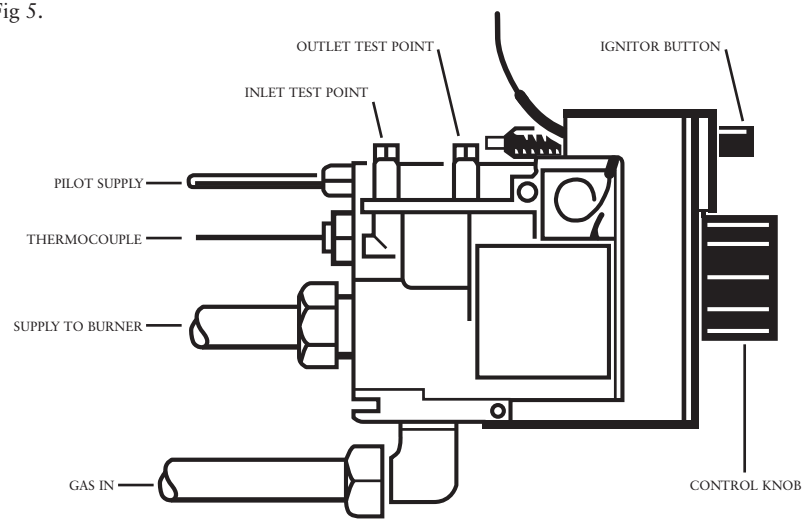
BOILER CONTROL VALVE

Fig 4.



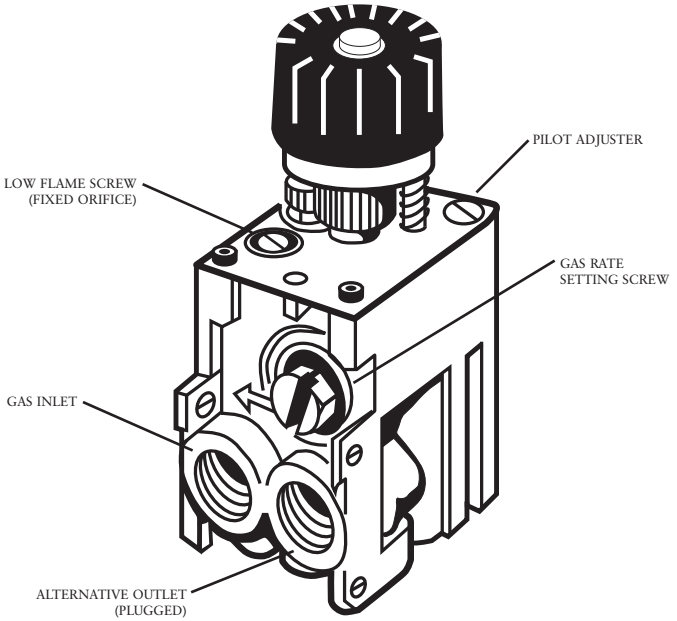
EUROSIT CONTROL (SIDE VIEW)

Fig 5.



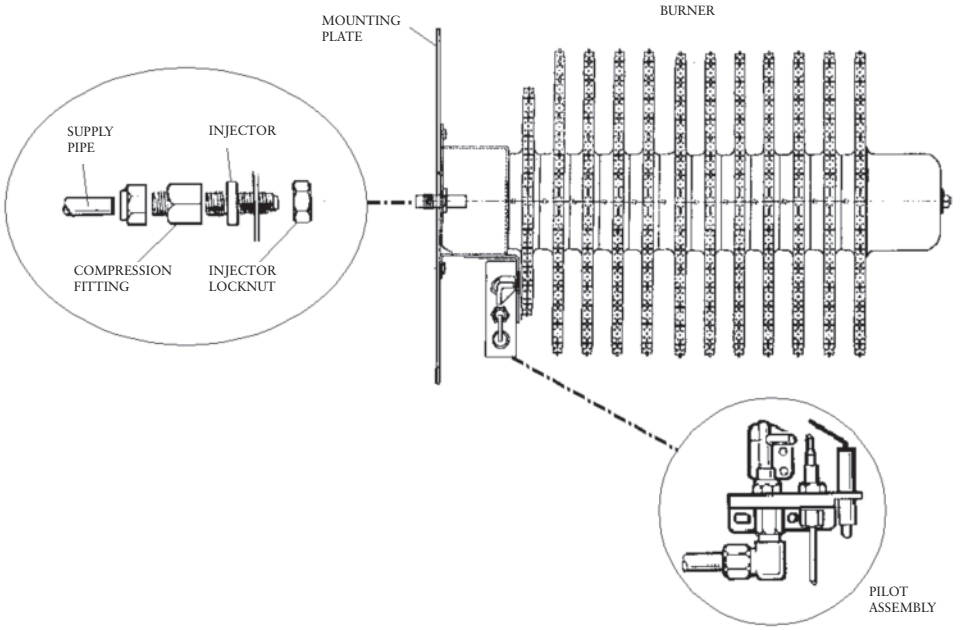
EUROSIT CONTROL CONNECTIONS AND RATE SCREWS

Fig 6.



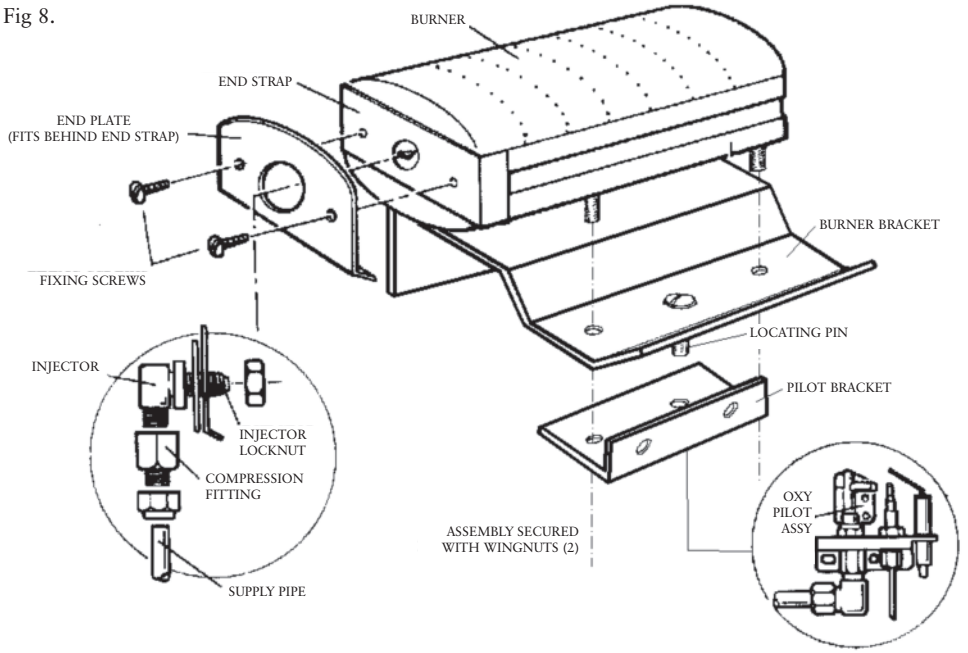
BREAKDOWN OF BOILER BURNER ASSEMBLY

Fig 7.



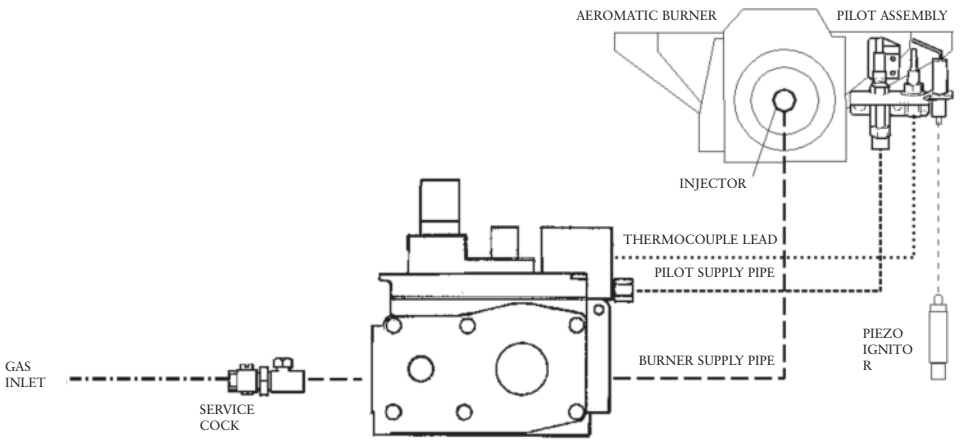
BREAKDOWN OF OVEN BURNER ASSEMBLY

Fig 8.



BOILER BURNER GAS COMPONENTS (SCHEMATIC)

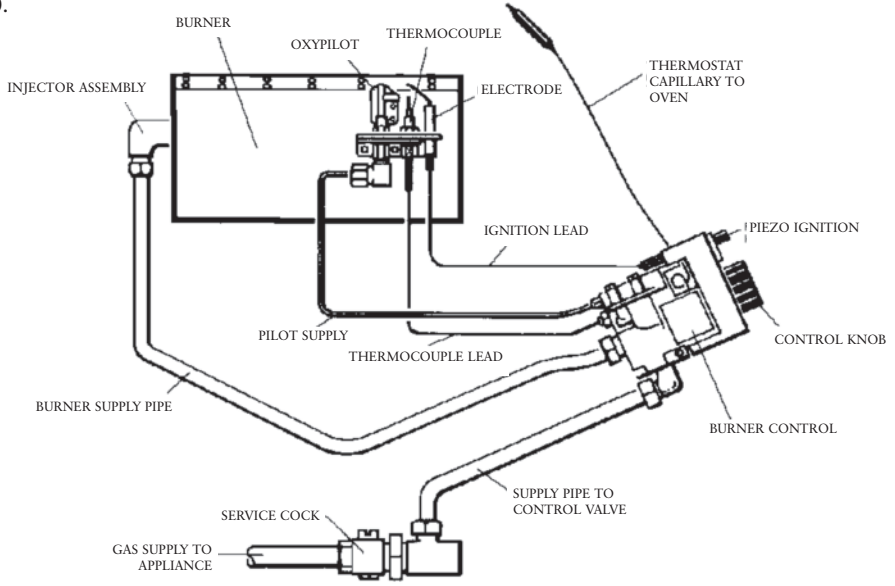
Fig 9.



S.I.T. Nov A 820 Boiler Control Valve

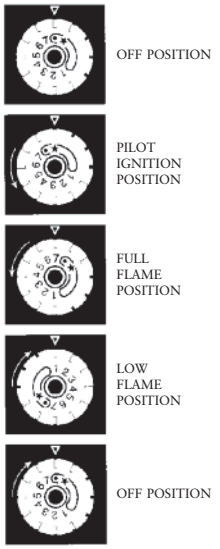
OVEN GAS COMPONENTS (SCHEMATIC ARRANGEMENT)

Fig 10.



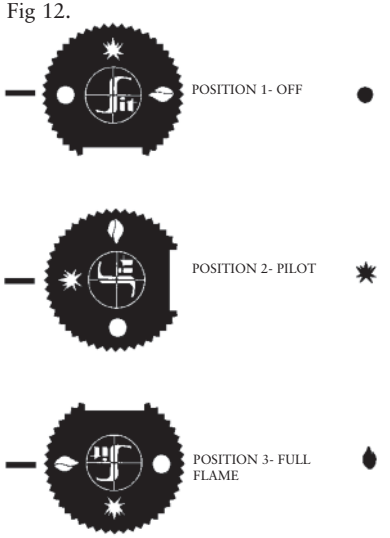
OVEN CONTROL KNOB VALUE SETTINGS

Fig 11.



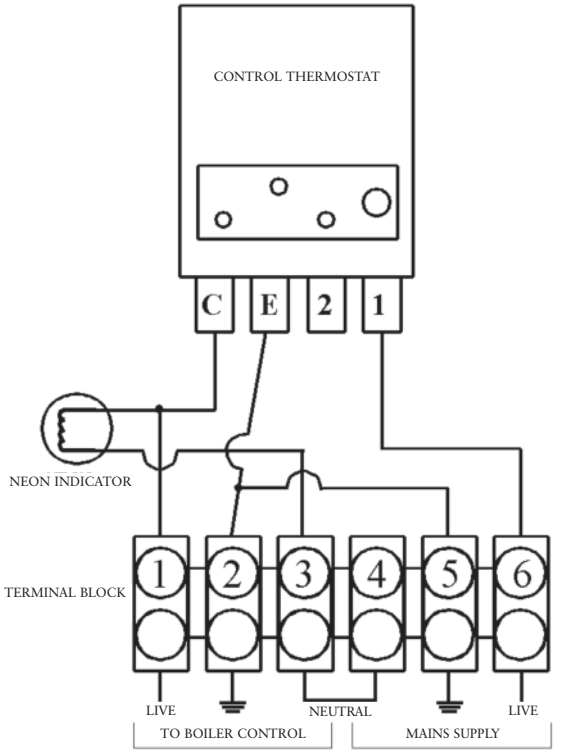
BOILER BURNER VALVE CONTROL

Fig 12.



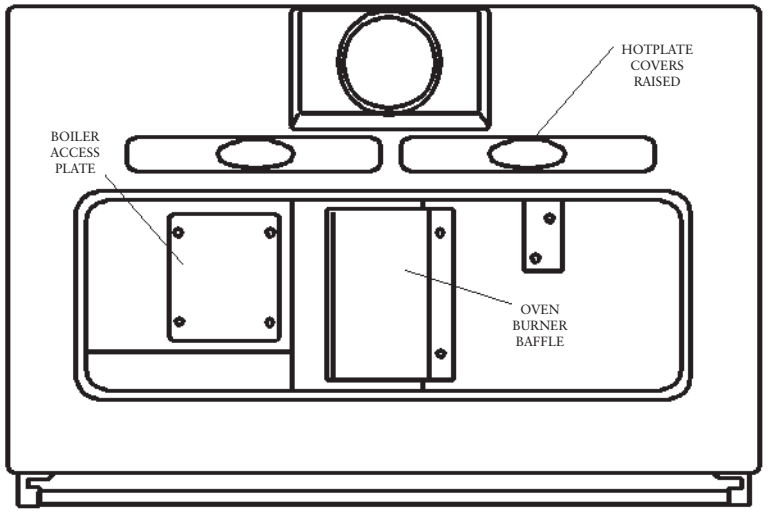
WIRING DIAGRAM

Fig 13.



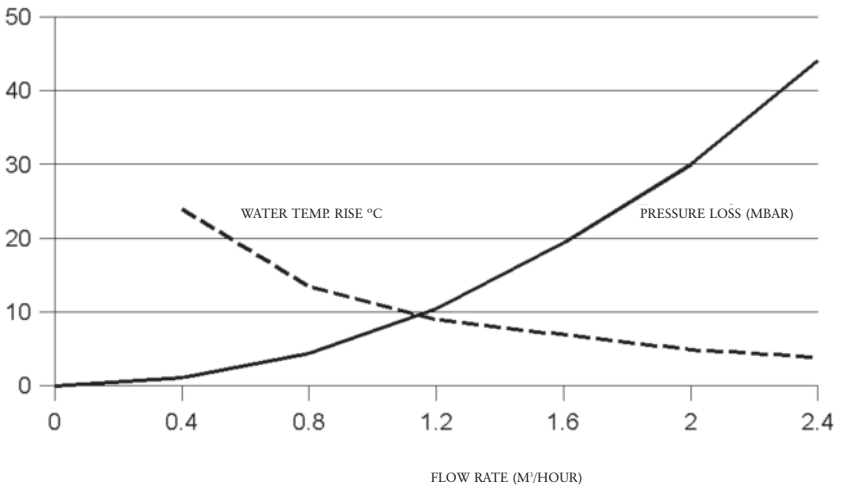
COOKER PLAN VIEW - HOTPLATE REMOVED

Fig 14.



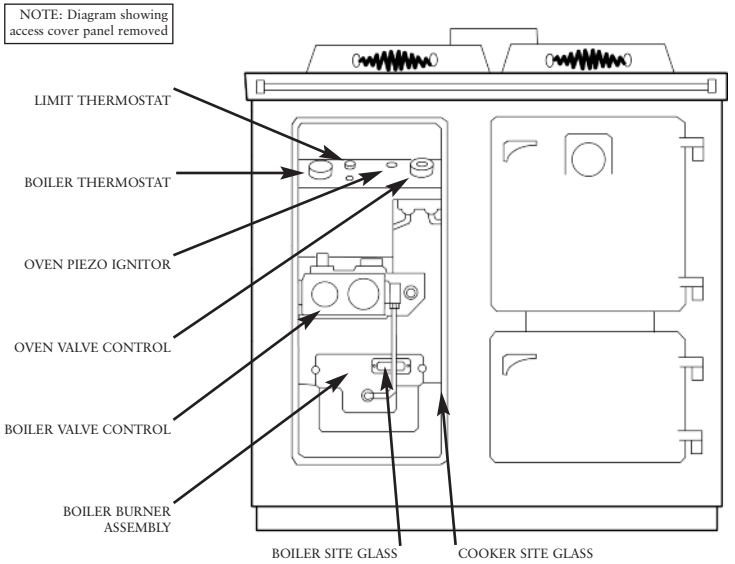
HOT WATER SYSTEM

Fig 15.



CONTROLS

Fig 16.



BOILER THERMOSTAT CONTROL

Fig 17.